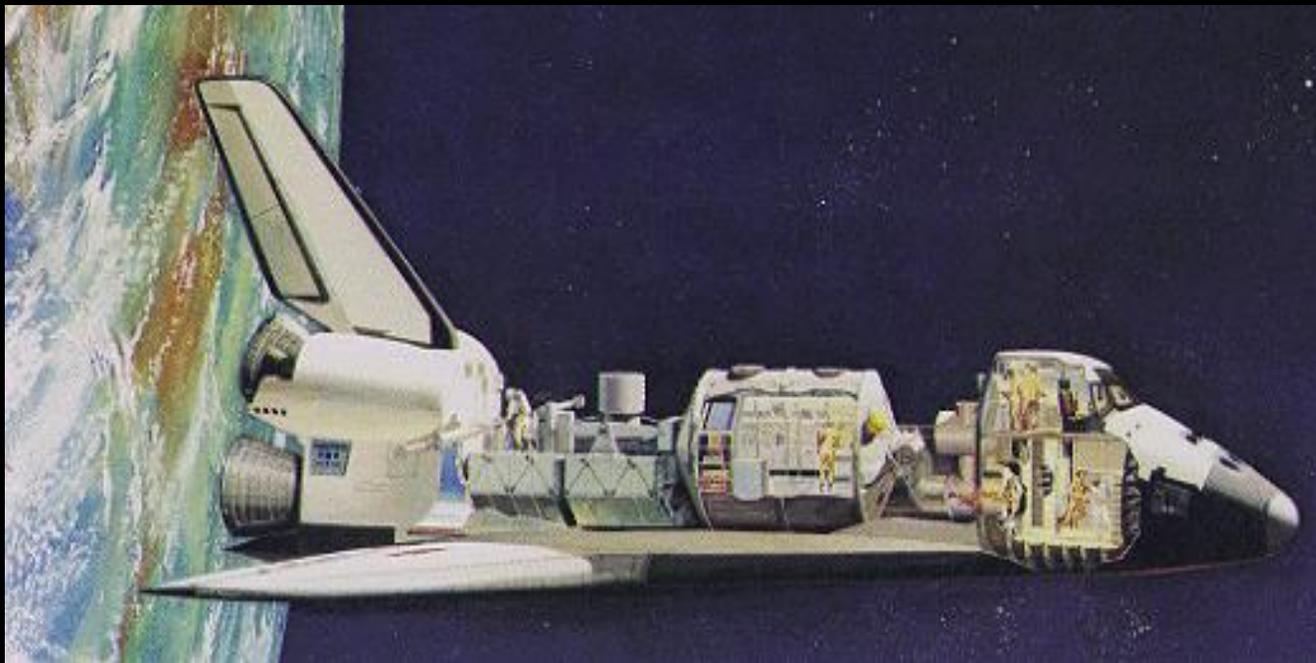


The Shuttle Missions Enabling Science and Exploration

An Introductory Back-Story



NASA APPEL Masters Forum 19
May 12, 2010
Noel W. Hinners



Collier's
 APRIL 30, 1954 • FIFTEEN CENTS

**Can We Get to Mars?
 Is There Life on Mars?**

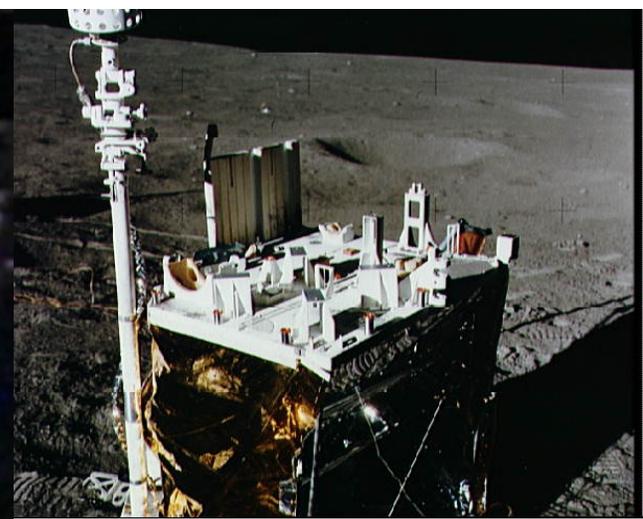
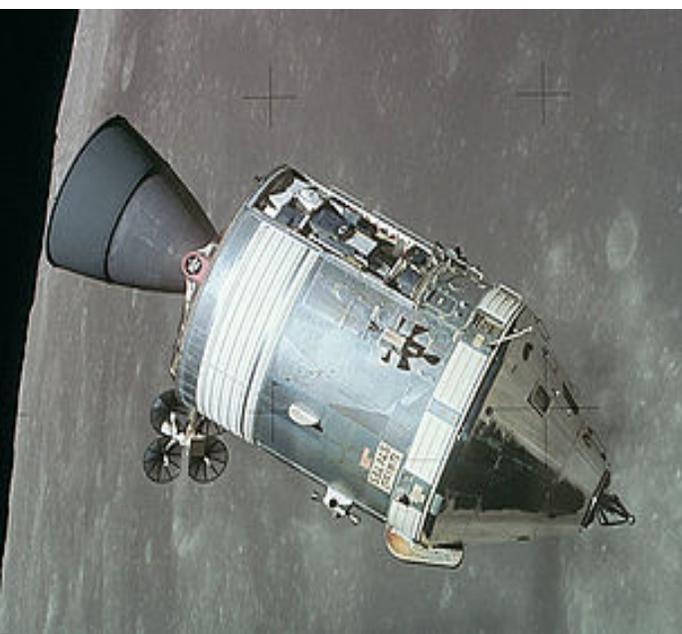
SPECIAL REPORT
 How Your Town Can
AVOID
 A Recession
 8 Danger Signals
 To Watch For
 10 Specific Steps
 To Prevent Trouble

CROSSING By Ed. WERNHER with BRAUN
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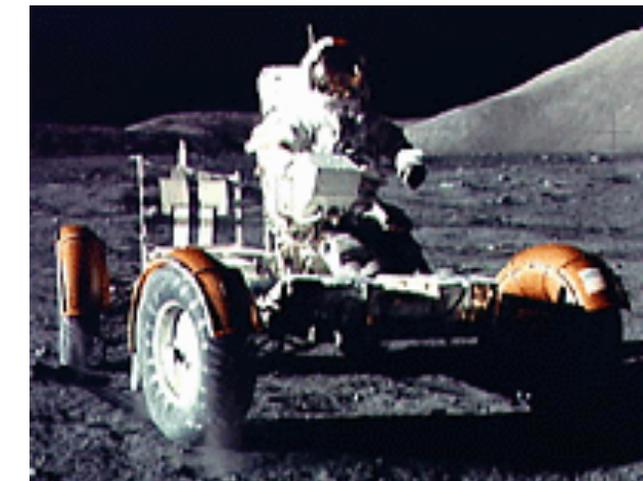
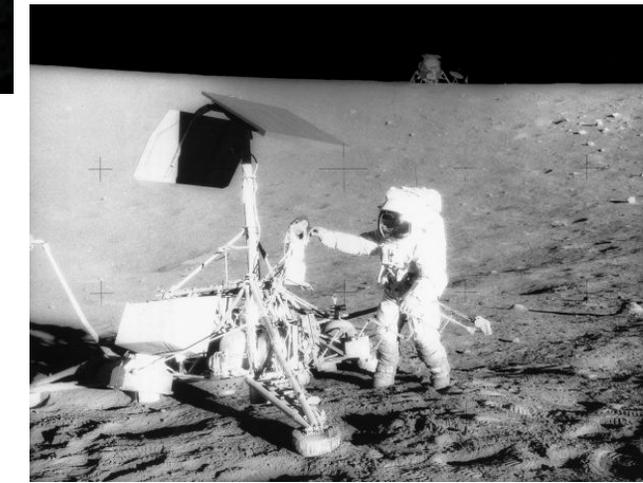
The von Braun Dream Lives On



**A Slight Diversion:
Kennedy, May 25, 1961: “ .. to the Moon”**



Apollo Success
Established
Politically
Unrealistic
Expectations





**Pres. Nixon, NASA Adm. Paine,
& VP Agnew, April 5, 1969.
Agnew Sept. 1969 STG Report
Manned Mars option DOA**

**Pres. Nixon buying the partly
reusable Space Shuttle
from NASA Adm. Fletcher
-but not a Space Station;
an affordability issue
Jan. 5, 1972**



Thus Started 50 years of Angst

Woods Hole Summer Study, 1973

Scientists Come to Grips with Reality

1. Launch to near-earth orbit the kinds of payload that the previous expendable space launch vehicles could.
- 2. Place in near-earth orbit payloads weighing 10 tons or more. This would make possible the launching of a large space telescope, which was of considerable interest to scientists. Heavy payloads for high-energy astronomy would also be possible.**
3. Recover such heavy payloads from orbit and return them to the ground. Refurbishing and updating of expensive spacecraft and equipment for reuse would then be possible.
4. Carry experimenters with a minimum of spaceflight training into orbit and back. Only the pilot and copilot would have to be fully qualified astronauts.
- 5. Remain on orbit for several days or even several weeks, operating in effect as a temporary space station.**
- 6. Carry into orbit and return to earth an outfitted laboratory for the performance of experiments in the space environment. Investigators would go aloft to conduct the experiments.**



Three Skylab Missions 1973 - 1974

“Filling the Gap”

Apollo-Soyuz Test Project - 1975



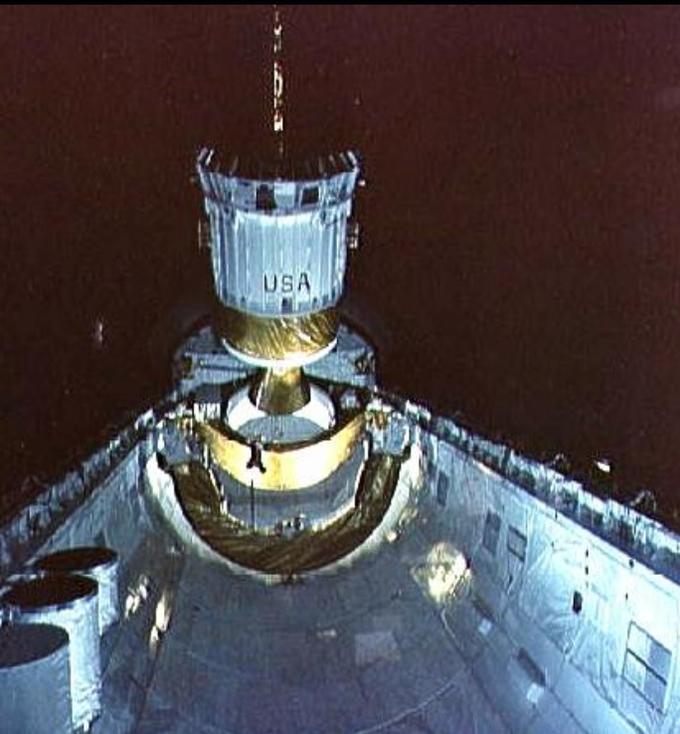
Session Speakers



Millard Reschke
Howard Ross



Mike Sander



Joe Rothenberg

